Chapter 19.75
GEOLOGICAL HAZARD AREAS

Sections:

19.75.010 Purpose of provisions.
19.75.020 Definitions.
19.75.030 Applicability.
19.75.040 Disputes—Boundaries or mapped hazard(s).
19.75.050 Studies and reports required.
19.75.060 Natural hazards report.
19.75.070 Review of reports—Approval procedure.
19.75.080 Active fault considerations.
19.75.090 Disclosure when a natural hazards report is required.
19.75.100 Disclosure when no natural hazards report is required.
19.75.110 Warning and disclaimer.
19.75.120 Change of use.
19.75.130 Conflicting regulations.

This chapter covers liquefaction and surface fault rupture hazards. Chapter 19.74, "Floodplain Hazard Regulations," covers floodplain hazards.

19.75.010 Purpose of provisions.

The purpose of this chapter is to promote the health, safety and general welfare of the citizens of the city by minimizing the potential adverse effects of natural hazards to person and property by requiring wise use of natural hazard areas.

19.75.020 Definitions.

As used in this chapter:

A. "Active fault" means a fault displaying evidence of greater than four inches of displacement along one or more of its traces during Holocene time (about 11,000 years ago to the present).

B. "Avalanche" means a mass of snow, ice and debris in swift motion down a slope.

C. "Critical facilities" means:

1. Lifelines, such as major communication, utility and transportation facilities and their con-nection to emergency facilities; or

2. Essential facilities, such as:

a. Hospitals and other medical facilities having surgery and emergency treatment areas,

b. Fire and police stations,

c. Tanks or other structures containing, housing or supporting water or other fire-suppression materials or equipment required for the protection of essential or hazardous facilities, or special occupancy structures,

d. Emergency vehicle shelters and garages,

e. Structures and equipment in emergency-preparedness centers,

f. Standby power generating equipment for essential facilities,

g. Structures and equipment in government communication centers and other facilities required for emergency response; or

3. Hazardous facilities, such as structures housing, supporting or containing sufficient quantities of toxic or explosive substances to be dangerous to the safety of the general public if released; or

4. Special occupancy structures, such as:

a. Covered structures whose primary occupancy is public assembly (capacity greater than 300 persons),

b. Buildings for schools through secondary or day care centers (capacity greater than 250 students),

c. Buildings for colleges or adult education schools (capacity greater than 500 students),

d. Medical facilities with 50 or more resident incapacitated patients, but not

included above,

e. Jails and detention facilities,

f. All structures with occupancy greater than 5,000 persons,

g. Structures and equipment in power-generating stations and other public utility facilities not included above, and required for continued operation.

D. "Engineering geologist" means a geologist who, through education, training and experience, is able to assure that geologic factors affecting engineering works are recognized, adequately interpreted, and presented for use in engineering practice and for the protection of the public. This person should have at least a four-year degree in geology, engineering geology, or a related field from an accredited university and at least three full years of experience in a responsible position in the field of engineering geology.

E. "Engineering geology" means the application of geological data and principles to engineering problems dealing with naturally occurring rock and soil for the purposes of assuring that geological factors are recognized and adequately interpreted in engineering practice.

F. "Fault" means a fracture in the earth's crust forming a boundary between rock or soil masses that have moved relative to each other (see "active fault").

G. "Fault scarp" means a steep slope of cliff formed directly by movement along a fault.

H. "Fault trace" means the intersection of a fault plane with the ground surface.

I. "Fault zone" means a corridor of variable width along one or more fault traces.

J. "Landslide" means a general term for the downslope movement of a mass of soil, superficial deposits or bedrock.

K. "Liquefaction" means a process by which certain water-saturated soils lose bearing strength because of ground shaking and increase of groundwater pore pressure.

L. "Natural hazard" means liquefaction and/or surface fault rupture hazard.

M. "Natural hazard maps" means the maps entitled "Avalanche Path Special Study Areas," "Liquefaction Potential Special Study Area," and "Surface Fault Rupture Special Study Areas," dated March 31, 1989, and adopted by Salt Lake County, as revised.

N. "Natural hazard special study area" means a potentially hazardous area as shown on the natural hazards maps within which hazard investigations are generally required prior to development.

O. "A structure designed for human occupancy" is any residential dwelling or any other structure used or intended for supporting or sheltering any use or occupancy, which is expected to have occupancy rate of more than 2,000 person-hours per year.

19.75.030 Applicability.

These regulations are applicable to all lands within the natural hazard special study areas in the city, as shown on the natural hazards maps on file with the department. Such maps and all amendments thereto are made a part of this chapter as if fully described and detailed herein. Each change in the natural hazards maps shall be subject to the amendment procedures set forth in chapter 19.54.

19.75.040 Disputes—Boundaries or mapped hazard(s).

The boundary lines of the special study areas shown on the natural hazards

maps shall be determined by use of the scale appearing on the map. Where there is a conflict between the boundary lines illustrated on the map and actual field conditions, or where detailed investigations show that the mapped hazard(s) are not present within a particular area, the dispute shall be settled as follows:

A. The person disputing the natural hazard study area boundary or the mapped hazard(s) present within a particular area shall submit technical and geologic evidence to support such claim to the planning commission in the form of a site-specific natural hazards report.

B. The planning commission may request the city geologist, the Utah Geological and Mineral Survey, the U.S. Forest Service, and/or other experts to review the evidence prior to making a decision concerning the dispute.

C. The cost of the review shall be paid by the person disputing the map.

D. The planning commission may allow deviations from the mapped boundary line only if the evidence clearly and conclusively establishes that the natural hazard special study area boundary location is incorrect, or that the mapped hazard(s) is (are) not present within a particular area.

E. Any decision of the planning commission may be appealed to the board of adjustment as provided in chapter 19.92, "Board of Adjustment."

19.75.050 Studies and reports required.

Any applicant requesting development on a parcel of land within a natural hazards study area, as shown on the natural hazards maps, shall submit to the department six copies of site-specific natural hazard studies and reports upon the department's request.

19.75.060 Natural hazards report.

A. The natural hazards report shall be prepared by an engineering geologist. In the case of a snow avalanche hazard, the report shall be prepared by an experienced avalanche expert. The report shall be signed by the preparer and shall also include the qualifications of the preparer.

B. The report shall be site-specific and identify all known or suspected potential natural hazards, originating on-site or off-site, affecting the particular property.

C. The report shall include a detailed site map (scale: one inch equals 200 feet or larger), showing the location of the hazard(s) with delineation of the recommended setback distances from hazard(s) and the recommended location for structures.

D. The report shall address the potential effects of the hazard(s) on the proposed development and occupants thereof in terms of risk and potential damage.

E. The report shall contain recommendations for avoidance or mitigation of the effects of the hazard(s), consistent with the purposes set forth in section 19.75.010. The evidence on which recommendations and conclusions are based shall be clearly stated in the report. Trench logs (scale: one inch equals five feet, or larger), aerial photographs, references with citations, and other supporting information as applicable, shall also be included in the report.

19.75.070 Review of reports—Approval procedure.

A. In order to fulfill the purposes of this chapter, the planning commission (for conditional uses and subdivisions),

and the department (for permitted uses) shall review any proposed development which requires preparation of a natural hazards report under this chapter to determine the possible risks to the safety of persons or property from natural hazards.

B. Prior to consideration by the planning commission or the department of any such development, the department shall submit the report to the city engineer, the Utah Geological and Mineral Survey, the U.S. Forest Service, and/or other experts for review and recommendation. Any cost the city must pay for the review shall be paid by the applicant prior to planning commission or department action. The department shall file a copy of the natural hazards report in the city natural hazards library and another copy with the Utah Geological and Mineral Survey.

C. The city geologist and other retained experts in their review of the report, and the planning commission or the director in their consideration of the development, shall determine whether the development complies with the following standard:

1. The development does not present an unreasonable risk to the safety of persons or property, (including public streets), or to the aesthetics and natural functions of the landscape (e.g., drainage, wildlife habitat, etc.) because of the presences of natural hazards.

2. At the planning commission's discretion, with advice from the city's consulting geologist, such area may be approved for development if the applicant submits substantial evidence that, using best available practices, the identified hazards can be mitigated to a level where the risk to human life and damage to property, as well as the risk to the aesthetics and natural functions of the site, are reduced to a reasonable and acceptable level in a manner which has a minimum effect on the natural environment.

D. The planning commission or the director may set requirements necessary to reduce the risks from natural hazards as a condition to the approval of any development which requires preparation of a natural hazards report.

19.75.080 Active fault considerations.

No critical facility (excluding transportation lines or utilities which by their nature may cross active faults) or structures designed for human occupancy shall be built astride an active fault. If a fault is discovered in the excavation for such a structure, a special study, as described in section 19.75.060, shall be performed to determine if the fault is active, and if the fault is determined to be active, the procedures set forth in section 19.75.070 shall be followed. No structure designed for human occupancy shall be built on a fault scarp. Footing setbacks from a fault scarp shall meet the requirements of the city's building code. The director may increase footing setback requirements where information from a geotechnical report indicates slope conditions warrant a greater setback distance.

19.75.090 Disclosure when a natural hazards report is required.

Whenever a natural hazards report is required under this chapter, the owner of such parcel shall record a restrictive covenant running with the land in a form satisfactory to the city prior to the approval of any development or subdivision of such parcel, which includes the following:

A. Notice that the parcel is located within a natural hazards special study

area as shown on the natural hazards map;

B. Notice of the existence and availability of the natural hazards report for public inspection in the city natural hazards library; and

C. An agreement by the owner of the parcel and any successor in interest to comply with any conditions set by the planning commission or the director to minimize potential adverse effects of the natural hazard(s).

19.75.100 Disclosure when no natural hazards report is required.

Whenever the applicant for any new development for human occupancy is not required under this chapter to prepare a natural hazards report, although the parcel to be developed is located within a high or moderate liquefaction potential special study area, or surface fault rupture special study area, as shown on the natural hazards maps, notice that the parcel is located within such area(s) shall be recorded by the land owner in a form satisfactory to the city prior to the approval of any such development.

19.75.110 Warning and disclaimer.

The natural hazards ordinance codified in this chapter and natural hazards maps represent only those hazardous areas known to the city, and should not be construed to include all possible potential hazard areas. The natural hazards ordinance and the natural hazards maps may be amended as new information becomes available. The provisions of this chapter do not in any way assure or imply that areas outside its boundaries will be free from the possible adverse effects of natural hazards. This chapter shall not create liability on the part of the city, any officer or employee thereof for any damages from natural hazards that result from reliance on this chapter or any administrative requirement or decision lawfully made thereunder.

19.75.120 Change of use.

No change in use which results in the conversion of a building or structure from one not used for human occupancy to one that is so used shall be permitted unless the building or structure complies with the provisions of this chapter.

19.75.130 Conflicting regulations.

In cases of conflict between the provisions of existing zoning classifications, building code, subdivision ordinance, or any other ordinance of the city and the natural hazards ordinance codified in this chapter, the most restrictive provision shall apply.